



JOINT MEDIA RELEASE

Keppel and NTU Singapore collaborate to boost development of zero-emissions, decarbonisation and circular economy solutions

Singapore, 26 October 2021 – Keppel Infrastructure Holdings Pte Ltd (KI), through its innovation and technology arm, Keppel Energy Transition Centre Pte Ltd (KETC), and Nanyang Technological University, Singapore (NTU Singapore) have signed a Memorandum of Understanding (MOU) to collaborate in the development of zero-emissions, decarbonisation and circular economy solutions, including in key areas such as Carbon Capture, Utilisation and Storage (CCUS), smart digital-enabled Distributed Energy Resources (DERs) such as solar and energy storage systems, as well as environmental sustainability technologies.

The objectives of this partnership are in line with Singapore’s Green Plan, which aims to promote a green economy, increase energy efficiency to lower carbon footprint, and be a zero-waste nation powered by a circular economy. This partnership is also in line with the Keppel Group’s commitment to environmental sustainability and its target to halve the Group’s Scope 1 and 2 carbon emissions by 2030, compared to 2020 levels, and achieve net zero by 2050.

Mr Ralph Foong, Deputy Chief Executive of the Energy Market Authority, said, “EMA is very pleased to note and is committed to provide support to the various research projects under the MOU between KI and NTU. Companies and academic institutions play important roles in the energy ecosystem. Their collaboration has been integral in developing innovative and practical solutions and will continue to be so as Singapore explores low-carbon solutions.”

The MOU will bring together KI’s domain knowledge and expertise in energy and environmental solutions, such as power generation, district cooling systems, advanced waste-to-energy technologies, water reuse and desalination, and NTU’s expertise in sustainability-related technologies like CCUS, smart grid and advanced power electronics.

Ms Cindy Lim, CEO of KI, said, “KI is pleased to partner NTU to catalyse the development of zero-emissions, decarbonisation and circular economy solutions.

Through KETC's open innovation approach, KI aims to enhance our technological capabilities and deepen collaboration with like-minded partners to develop impactful and scalable solutions that can abate carbon emissions and accelerate the decarbonisation of the energy and environmental services sector in Singapore and the region."

NTU Senior Vice President (Research), Professor Lam Khin Yong, said: "Advanced low-carbon technologies are crucial for Singapore's drive towards a green economy and a zero-waste nation transformation. On the NTU Smart Campus, our scientists have pioneered sustainability-related technologies to tackle challenges as part of the NTU 2025 strategic plan. This collaboration with Keppel Infrastructure will allow our researchers the opportunity to go further, by working with the industry to provide market specific solutions. It is also well aligned with NTU's recently announced Sustainability Manifesto, which aims to achieve carbon neutrality by 2035. The partnership exemplifies NTU's commitment to decarbonisation and sustainable development and working closely with industry for the research translation. We look forward to the meaningful results from the joint projects."

The KETC-NTU collaboration will focus on four research areas:

1. The development of solutions in CCUS. This includes a high-performance catalyst to convert carbon dioxide into methanol and syngas, as well as the decarbonisation of flue gas into carbon-neutral products such as algae biofuel, which can be utilised in the energy and environmental industries.
2. Blockchain technology to develop a secure data management framework that can be used to verify renewable energy generation and consumption, as well as aggregate DERs. This is with the aim of encouraging direct peer-to-peer energy trading among prosumers – businesses and households which produce and consume power – where excess energy from DERs can be traded locally.
3. Environmental sustainability technologies in areas such as waste-to-resources and close-loop water recovery, as well as digital energy solutions.
4. The launch of low carbon living laboratories at KETC and NTU as physical collaborative spaces to testbed, develop, and demonstrate innovative low carbon, environmental and water technologies.

KETC aims to harness technological foresight, and drive collaboration within KI and the Keppel Group, as well as across the ecosystem with like-minded stakeholders. It provides a platform for the test-bedding, development and commercialisation of new technologies and solutions through partnerships with external parties such as Institutes of Higher Learning, research institutes, technology developers, and relevant public agencies.

-End-

For more information, please contact:

Media

Mr Brian Lee
Assistant Manager
Group Corporate Communications
Keppel Corporation
Tel: (65) 6413 6429
Email: brian.lee@keppcorp.com

Investor Relations

Ms Tang Yi Bing
Deputy Manager
Group Corporate Communications
Keppel Corporation Limited
Tel: (65) 6413 6474
Email: yibing.tang@keppcorp.com

Ms Junn Loh
Manager, Media Relations
Corporate Communications Office
Nanyang Technological University,
Singapore
Email: junn@ntu.edu.sg

About Keppel Infrastructure

Keppel Infrastructure (KI) is a wholly-owned subsidiary of Keppel Corporation, a Singapore flagship multinational company providing solutions for sustainable urbanisation. KI provides solutions for some of the world's most pressing challenges through its power & gas, environment and new energy businesses by leveraging its proprietary technology, strong technical expertise and proven operating capabilities.

KI has a track record of developing energy and environmental infrastructure end-to-end, including power generation assets, waste-to-energy (WTE) facilities, large-scale district cooling systems, as well as NEWater and desalination plants. In Singapore, it operates a 1,300-megawatt high efficiency gas-fired combined cycle power plant and a utility pipe rack and pipeline network in Jurong Island. It is also Singapore's leading electricity retailer, and the first and largest district cooling systems developer and service provider. Globally, through Keppel Seghers, it is one of the leading WTE technology providers with more than 100 project references in 20 countries.

KI is expanding its presence, in Singapore and overseas, in areas such as power generation, waste management, district cooling, renewables and energy storage, electric vehicle charging infrastructure and other clean energy opportunities.

For more information, please visit www.kepinfra.com

About Nanyang Technological University, Singapore

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in the Engineering, Business, Science, Humanities, Arts, & Social Sciences, and Graduate colleges. It also has a medical school, the Lee Kong Chian School of Medicine, set up jointly with Imperial College London.

NTU is also home to world-class autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI) and Energy Research Institute @ NTU (ERI@N).

Ranked amongst the world's top universities by QS, NTU has also been named the world's top young university for the past seven years. The University's main campus is frequently listed among the Top 15 most beautiful university campuses in the world, and it has 57 Green Mark-certified (equivalent to LEED-certified) building projects, of which 95% are certified Green Mark Platinum. Apart from its main campus, NTU also has a campus in Singapore's healthcare district.

Under the NTU Smart Campus vision, the University harnesses the power of digital technology and tech-enabled solutions to support better learning and living experiences, the discovery of new knowledge, and the sustainability of resources.

For more information, visit www.ntu.edu.sg